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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/540,002	06/21/2005	Naruyasu Ishibashi	271117US0PCT	8043
22850	7590	05/15/2008	EXAMINER	
OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			HANOR, SERENA L	
			ART UNIT	PAPER NUMBER
			1793	
			NOTIFICATION DATE	DELIVERY MODE
			05/15/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/540,002	Applicant(s) ISHIBASHI ET AL.	
	Examiner SERENA L. HANOR	Art Unit 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03/12/2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 6-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 6-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>06/21/2005, 09/12/2005</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION***Election/Restrictions***

Claims 7-14 are allowable. Claims 1-3 and 6, previously withdrawn from consideration as a result of a restriction requirement, require all the limitations of an allowable claim. Pursuant to the procedures set forth in MPEP § 821.04(a), **the restriction requirement between inventions I and II, as set forth in the Office action mailed on 02/21/2008, is hereby withdrawn** and claims 1-3 and 6 hereby rejoined and fully examined for patentability under 37 CFR 1.104. In view of the withdrawal of the restriction requirement, applicant(s) are advised that if any claim presented in a continuation or divisional application is anticipated by, or includes all the limitations of, a claim that is allowable in the present application, such claim may be subject to provisional statutory and/or nonstatutory double patenting rejections over the claims of the instant application. Once the restriction requirement is withdrawn, the provisions of 35 U.S.C. 121 are no longer applicable. See *In re Ziegler*, 443 F.2d 1211, 1215, 170 USPQ 129, 131-32 (CCPA 1971). See also MPEP § 804.01.

Claim Rejections - 35 USC § 112, 1st

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

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i. Claim 1 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The Specification, p. 10, provides a very general explanation of the decomposition rate of an organic group, stating that its calculation derives from the ratio of the ethoxysilanes that results from the decomposition of the organic group with an alkali in an ethyl silicate in the presence of KOH or NaOH. However, there is no suggestion as to what the ratio should be or how it is manipulated to arrive at the decomposition rate.

ii. Claim 1 is rejected under 35 U.S.C. 112, first paragraph, as based on a disclosure which is not enabling. The manner of calculating the decomposition rate of an organic group on the powder surface, critical or essential to the practice of the invention, but not included in the claim(s), is not enabled by the disclosure. See *In re Mayhew*, 527 F.2d 1229, 188 USPQ 356 (CCPA 1976).

iii. Claim 2 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. While the specification provides for calculating the transmittance of an alcoholic

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dispersion liquid comprising isopropyl alcohol, there is no indication as to the concentration of said alcoholic dispersion liquid.

Claim Rejections - 35 USC § 112, 2nd

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 3 and 6-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- i. Claims 3 and 6 recite the limitation "said fine silica powder" in lines 2 of each claim. There is insufficient antecedent basis for this limitation in the claim.
- ii. Claims 11-14 recite the limitation "the gas flow rate" in lines 2 of each claim. There is insufficient antecedent basis for this limitation in the claim.
- iii. Claims 7-14 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. See MPEP § 2172.01. The omitted elements are: the gas to which gas the gas flow rate refers.

Allowable Subject Matter

The following is a statement of reasons for the indication of allowable subject matter:

- i. Schutte et al. (U.S. Patent No. 3,924,029) disclose a method of producing high dispersible hydrophobic fine silica powder wherein a hydrophobic agent

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comprising a volatile organic silicon compound is mixed in the gas state with a fine silica powder in a fluidized bed type reaction vessel (col. 5 line 59), and the gas flow rate at the time of this mixing is more than 5.0 cm/sec (col. 8 Example 1). However, Schutte et al. do not disclose any characteristics of the silica.

ii. Nishihara et al. (EP 0 799 791 A1) disclose a high dispersible hydrophobic fine silica powder, wherein hydrophobicity is more than 50% and the triboelectric charge to an iron powder is more than $-500 \mu\text{C/g}$ (p. 10-11 Table 3, Tests No. 3, 8, 21, 24, 25). The fine silica powder is synthesized by a vapor phase method (p. 3 line 20; p. 5 lines 47-49). However, Nishihara et al. do not disclose any information regarding the decomposition of an organic group, the BET surface area, or the amount of residual hydrochloride.

iii. Uchide et. al (U.S. Patent No. 4,868,084) disclose a high dispersible hydrophobic fine silica powder, wherein hydrophobicity is more than 50% (col. 11 lines 34-40). The fine silica powder is synthesized by a vapor phase method (col. 9 lines 13-17) and has a BET surface area of more than $200 \text{ m}^2/\text{g}$ (col. 8 lines 59-63). However, Uchide et al. do not disclose the triboelectrostatic charge, the transmittance of a 5% alcoholic dispersion liquid, or the amount of residual hydrochloride.

iv. Barthel et al. (U.S. Patent No. 6,800,413 B2) disclose a high dispersible hydrophobic fine silica powder, wherein the triboelectric charge to an iron powder is more than $-500 \mu\text{C/g}$ (col. 23 lines 55-61, Table 1-2). The fine silica powder has a BET surface area of more than $200 \text{ m}^2/\text{g}$ (col. 10 lines 16-17). The fine silica powder is produced by mixing a hydrophobic agent comprising a volatile

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organic silicon compound such as dimethyldichlorosilane (col. 5 line 16), which is disclosed in the Specification, with a fine silica powder in a fluidized bed type reaction vessel (col. 7 lines 12-21). The hydrophobic agent has a gas flow rate of more than 5.0 cm/sec (col. 7 lines 9-11). The gas flow rate in the vessel is more than 3.0 cm/sec at the time of the hydrophobic treatment (col. 7 lines 21-24).

Barthel et al. differs from the instant invention in that there is no mention of the hydrophobicity or the decomposition rate of an organic group on the powder surface. Furthermore, the hydrophobic reaction occurs at a temperature no greater than 400C, which is less than the reaction temperature in the Specification. According to the Applicants' Specification (p. 8 lines 14-15), a reaction temperature of 430-600C is necessary to ensure that the decomposition rate of an organic group on the powder surface is less than 15%. Additionally, the hydrophobic agent is preferably added in liquid form (col. 17 lines 3-4).

Conclusion

Claims 1-3 and 6-14 have not been rejected under either 35 U.S.C. 102 or 35 U.S.C. 103 because the limitations of these claims are not taught in the reference(s) of record.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SERENA L. HANOR whose telephone

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number is (571)270-3593. The examiner can normally be reached on Monday - Thursday 8:00 AM - 5:30 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley Silverman can be reached on (571) 272-1358. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

SLH

/Timothy C Vanoy/

Primary Examiner, Art Unit 1793